



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Nathan G. Clark, et al.

Attorney Docket: 990471U2

Serial No.: 09/810,792

Group Art Unit: 3641

Filed: March 16, 2001

Examiner: Nelson, Peter A.

For: **OIL WELL PERFORATOR LINER WITH  
HIGH PROPORTION OF HEAVY METAL**

**RESPONSE TO FINAL OFFICE ACTION  
OF MARCH 25, 2003**

Mail Stop Non-Fee Amendment  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**RECEIVED**  
MAY 21 2003  
**GROUP 3600**

11/1/03  
5/22/03  
Hobbs  
Bates  
10/7

In response to the Final Office Action mailed March 25, 2003, please amend the application as follows:

In the Claims:

DO NOT  
ENTER  
5/29/03

Claim 1. (Currently Amended) A shaped charge comprising:  
a casing for a shaped charge;  
an explosive material disposed within the casing having a cavity formed therein; and  
a liner disposed within the cavity formed of a mixture of powdered heavy metal and  
powdered binder metal wherein  
the percentage of heavy metal in the mixture is within a range of approximately  
91.0% to 99.98% by weight.

Claim 2. (Previously Amended) A shaped charge according to claim 1 wherein  
the heavy metal powder is chosen from the group consisting of tungsten, tantalum,  
gold, platinum, or any mixture thereof.

Claim 3. (Previously Amended) A shaped charge according to claim 1 wherein  
the heavy metal consists primarily of tungsten.